

**TITLE OF INVENTION****Coating Composition for Metal conductors and Coating Process****Involving the Use Thereof****Abstract of the Disclosure**

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A coating composition useful as an electrical insulation layer for metal conductors, particularly wires, that has improved de-coating properties for the partial de-coating of coated conductor by the use of laser irradiation; the coating composition comprises

10 A) 1 wt.% to 90 wt.%, based on the total weight of the binder, of one or more binders,

B) 0.3 wt.% to 25 wt.%, based on the total weight of the binder, of one or more reactive particles based on an element-oxygen bound network with elements from the series of aluminium, tin, boron, germanium,  
15 gallium, lead, the transition metals and the lanthanides and actinides, and

C) 0 wt.% to 95 wt.%, based on the total weight of the binder, of one or more conventional additives, solvents, pigments and/or fillers,

wherein the total of A) + B) +C) equal 100% and

20 wherein the reactive particles of component B are based on the element-oxygen bound network, on the surface of which reactive functions  $R_1$  and optionally, non-reactive and/or partially reactive functions  $R_2$  and  $R_3$  are bound by way of the oxygen of the network,

$R_1$  being contained in an amount up to 98 wt.%, based on the weight of the particles,  $R_2$  and  $R_3$  in an amount from 0 wt.% to 97 wt.%, based on  
25 the weight of the particles, in the particle, in which

$R_1$  represents radicals of the metal acid; NCO, urethane, epoxide, epoxy, carboxylic acid anhydride, C=C double bond systems, OH, alcohols bound by way of oxygen, chelating agents, COOH,  $NH_2$ ,  $NHR_4$ , and/or reactive resin components,

30  $R_2$  represents radicals of aromatic compounds, aliphatic compounds, fatty acid derivatives; esters and/or ethers,

$R_3$  represents resin radicals and

$R_4$  represents radicals of acrylate, phenol, melamine, polyurethane, polyester, polyester imide, polysulfide, epoxide, polyamide, polyvinyl

formal resins; aromatic compounds; aliphatic compounds; esters; ethers;  
alcoholates and/or chelating agents.

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